Catalog of State Actions
Forestry Working Group

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local and private actors.

Key to Future Rankings of Options in the Tables that Follow:

Potential GHG Emission Reductions 1/	Potential Cost or Cost Savings 1/ 2/
High (H): At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO_2e) per year by 2020 (~1% of current WA emissions)	**High (H)**: $50 per metric ton CO_2e (tCO_2e) or above
Medium (M): From 0.1 to 1.0 $MMtCO_2e$ per year by 2020	**Medium (M):** \$5-50/tCO_2e
Low (L): Less than 0.1 $MMtCO_2e$ per year by 2020, or 1 MMtCO2e by 2050	**Low (L):** Less than \$5/tCO_2e
Uncertain (U): Not able to estimate at this time	**Negative (Neg):** Net cost savings
	Uncertain (U): Not able to estimate at this time
1/ Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.	
2/ Costs are denoted by a positive number. Cost savings (i.e., "negative costs") are denoted by a negative number.	

Definition of "Priorities for Analysis":
- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low**: Low priority options will be analyzed last, time and resources permitting.

Notation of Options:
* **Options marked in bold an asterisk (*)** indicate some of the related state actions that are approved or underway, as described further in the companion options description document. TWG members are encouraged to provide information on other relevant actions.

Forestry (F)

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Contribution to 2035/2050 goals, Job Creation, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes / Related Actions in WA State
F-1	**PRODUCTION OF FUELS AND ELECTRICITY IN FORESTRY**					
1.1	Expanded Use of Biomass Feedstocks for Electricity, Heat and Steam Production*	M-H	L	Approximate amount of forest biomass available in WA: 8 million dry tons (generating approx. 8 billion kWhrs) (WSU 2005).		The 2006 Energy Independence Act (Initiative 937) established renewable portfolio standards. Related to AW 1.1
1.2	In-state Liquid Biofuel and Feedstock Production*	M-H	M-H	Level of reduction is dependent on volumes produced, feedstocks and production methods utilized. The CAT emphasized this point in their comments, noting significant differences between starch-based and cellulosic production methods, for example.		WA passed into several requirements/incentives supporting an in-state biodiesel and ethanol industry Current biodiesel production in the State, 15 facilities on line or in serious planning/development, about 270.5 million gallons per year. Biodiesel sold at 35 stations in WA. Ethanol production is about 435 million gallons per year from seven facilities in the permitting/planning stage. There are four E-85 fueling stations in the State. Related to AW 2.3
1.3	Improved Energy Capture from Wood Waste Combustion	L-M	L-M			
1.4	Improved Commercialization of	M-H	U			For more efficient production of fiber

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	Advanced Lignocellulosic Processes (hydrolysis, gasification, pyrolysis or other)					products, transportation fuels, petrochemical replacements, heat and power
F-2	**FORESTRY – BIOMASS PROTECTION AND MANAGEMENT**					
2.1	Reduce Conversion to Nonforest Cover	H	L-M	The CAT noted that total costs can be higher if a policy limits landowner's ability to sell their land for the highest price. Should also consider intermediate processes that increase the likelihood of conversion, e.g., fragmentation and parcelization		Applies to 2.1-2.4: Recent Actions in WA: DNR and WESTCARB produced an inventory of terrestrial carbon sequestration opportunities in Washington State.
2.2	Urban Forestry	L-M	M-H	GHG reductions and cost/cost savings can be enhanced if policy targets shade planting to reduce heating/cooling demands		
2.3	Afforestation/Restoration	L-M	L-M	The CAT noted that the GHG reduction potential does not take into account potential increases in biomass accumulation in fish and wildlife populations due to expanding habitat, which allows for population growth. Increased tree cover can also impact water storage potential of forests, resulting in cooler forest habitat conducive to wildlife inhabitation and		

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				reduced fire risk.		
2.4	Enhanced Carbon Sequestration in Forests	M-H	L-M	The CAT noted that costs may be higher if a policy prescribes how landowners will manage their lands, which could restrict the landowner from making the best economic decisions for their land.		Includes a variety of options for management actions and does not specify a single approach.
2.5	Enhanced Carbon Sequestration in Harvested Wood Products	M-H	L-M	Revenue from increased production of harvested wood products can lead to cost-savings.		Includes a variety of options for management actions and does not specify a single approach. Potential link to 3.3 in terms of increasing the amount of durable wood products available for use in building materials
2.6	Improved Forest Health	M-H	L-M	The CAT noted that the GHG reduction potential does not take into account potential increases in biomass accumulation in fish and wildlife populations. In addition, better forest management can enhance water storage potential, resulting in cooler forest habitat conducive to wildlife inhabitation and reducing fire risk.		Includes a variety of options for management actions and does not specify a single approach.
F-3	**FORESTRY - WOOD PRODUCTS AND WASTE**					
3.1	Improved Mill Biomass Recovery	L	L			

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3.2	Improved Logging and Other Residue Recovery	L	U	The CAT noted that this option is related to 1.1 and the TWG may consider combining them.		There was discussion about removing this option on the last TWG call. A follow-up email from WA Ecology indicated there might be opportunities to improve logging residue recovery as the state continues to issue burning permits for wood waste on forest parcels.
3.3	Expanded Use of Wood Products for Building Materials	M	U			